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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/002,861	11/15/2001	Takao Sugawara	1990.65985	4780

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EXAMINER	
RODRIGUEZ, GLENDA P	

ART UNIT	PAPER NUMBER
2651	

DATE MAILED: 07/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/002,861	SUGAWARA ET AL.	
	Examiner	Art Unit	
	Glenda P. Rodriguez	2651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 April 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *6,13 and 23* is/are allowed.

6)☒ Claim(s) *1-5,7-12,14-22 and 24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-5, 7-12, 14-22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mizokami et al. (US Patent No. 5, 523, 991) in view of Okazaki (US Patent No. 5, 838, 512).

Regarding Claim 1, 8, 15 and 18, Mizokami et al. teaches an information recording and reproducing apparatus for recording and reproducing information onto/from a magnetic recording medium, comprising:

> A data recording unit which inserts a predetermined specific code train into at least one or more portions of user data and records the data onto the medium upon data recording (Col. 2, L. 38-50 and Col. 11, L. 3-14);
>
> And a data reproducing unit, which separates a head reproducing signal by using clocks and thereafter, executes a clock extraction and an amplitude by using a signal corresponding to said specific code train upon data reproduction (Col. 11, L. 15-37. Wherein it teaches the code trains utilizing RLL encoding to synchronize the data.).

Mizokami et al. does not explicitly teach wherein the code train is amplitude corrected. However, this feature is well known in the art as disclosed by Okazaki, wherein it teaches a

variable gain amplifier to control the code trains (Col. 6, L. 14-24 and Col. 7, L. 10 of Okazaki, wherein it teaches that servo data is a code of train (another expression for code train) wherein this code is used for amplitude and synchronization purposes by using phase acquisition by a PLL circuit (See Abstract and Col. 3, L. 36-52. Okazaki further teaches a VGA, which is used for amplitude correction upon acquired data in Col. 1, L. 25-30. This read on the Applicant's description of amplitude correction according to the Applicant's Specification in Page 3, L. 12-24). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Mizokami et al.'s invention with the teaching of Okazaki in order to perform phase acquisition from the apparatus (See Abstract of Okazaki).

Claim (16) has limitations similar to those treated in the above rejection(s), and are met by the references as discussed above. Claim (16) however also recites the following limitations..."wherein said recording signal series, sync bytes are arranged at a head position of each data which was split by said specific code train (Col. 17, L. 32-46, wherein it teaches it demonstrates a first sync pattern being recorded (added) after the head of the coded data (It is very well known in the art that positional information is written at the head of a track.).)".

Regarding Claim 2, 9, 19 and 24, Mizokami et al. teaches an information recording and reproducing apparatus for recording and reproducing information onto/from a magnetic recording medium, comprising:

> A data recording unit which inserts a predetermined specific code train into at least one or more portions of user data and records the data onto the medium upon data recording (Col. 2, L. 38-50 and Col. 11, L. 3-14 of Mizokami et al);

And a data reproducing unit, which separates a head reproducing signal by using clocks and thereafter, executes a clock extraction and an amplitude by using a signal corresponding to said specific code train upon data reproduction (Col. 11, L. 15-37 of Mizokami et al. Wherein it teaches the code trains utilizing RLL encoding to synchronize the data.).

Wherein said data recording unit and said data reproducing record and, thereafter, reproduce user data onto/from medium without encoding it to an RLL code (Col. 2, L. 33-37, Col.12, L.60-64 and Col. 15, L. 47-55 of Mizokami et al.).

Mizokami et al. does not explicitly teach wherein the code train is amplitude corrected. However, this feature is well known in the art as disclosed by Okazaki, wherein it teaches a variable gain amplifier to control the code trains (Col. 6, L. 14-24 and Col. 7, L. 10 of Okazaki, wherein it teaches that servo data is a code of train (another expression for code train) wherein this code is used for amplitude and synchronization purposes by using phase acquisition by a PLL circuit (See Abstract and Col. 3, L. 36-52. Okazaki further teaches a VGA, which is used for amplitude correction upon acquired data in Col. 1, L. 25-30. This read on the Applicant's description of amplitude correction according to the Applicant's Specification in Page 3, L. 12-24). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Mizokami et al.'s invention with the teaching of Okazaki in order to perform phase acquisition from the apparatus (See Abstract of Okazaki).

Regarding Claims 4, 11 and 21, Mizokami et al. teaches an information recording and reproducing apparatus for recording and reproducing information onto/from a magnetic recording medium, comprising:

A data recording unit which inserts a predetermined specific code train into at least one or more portions of user data and records the data onto the medium upon data recording (Col. 2, L. 38-50 and Col. 11, L. 3-14 of Mizokami et al);

And a data reproducing unit, which separates a head reproducing signal by using clocks and thereafter, executes a clock extraction and an amplitude by using a signal corresponding to said specific code train upon data reproduction (Col. 11, L. 15-37 of Mizokami et al. Wherein it teaches the code trains utilizing RLL encoding to synchronize the data.).

Wherein said data recording unit arranges sync bytes to the head position of each data which was split by said specific code train and records the data onto the medium, and said data reproducing unit detects sync bytes subsequent to said specific code train, presumes a head bit of the data, and obtains a synchronization of a decoding (Col. 17, L. 32-46, wherein it teaches it demonstrates a first sync pattern being recorded (added) after the head of the coded data (It is very well known in the art that positional information is written at the head of a track.).).

Mizokami et al. does not explicitly teach wherein the code train is amplitude corrected. However, this feature is well known in the art as disclosed by Okazaki, wherein it teaches a variable gain amplifier to control the code trains (Col. 6, L. 14-24 and Col. 7, L. 10 of Okazaki, wherein it teaches that servo data is a code of train (another expression for code train) wherein this code is used for amplitude and synchronization purposes by using phase acquisition by a PLL circuit (See Abstract and Col. 3, L. 36-52. Okazaki further teaches a VGA, which is used for amplitude correction upon acquired data in Col. 1, L. 25-30. This read on the Applicant's

description of amplitude correction according to the Applicant's Specification in Page 3, L. 12-24). It would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to modify Mizokami et al.'s invention with the teaching of Okazaki in order to perform phase acquisition from the apparatus (See Abstract of Okazaki).

Regarding Claims 5, 8 and 22, Mizokami et al. and Okazaki teach all the limitations of Claims 1, 8 and 18, respectively. Mizokami further teach wherein said data recording unit arranges sync bytes to the head position of each data which was split by said specific code train and records the data onto the medium, and said data reproducing unit detects sync bytes subsequent to said specific code train, presumes a head bit of the data, and obtains a synchronization of a decoding (Col. 17, L. 32-46, wherein it teaches it demonstrates a first sync pattern being recorded (added) after the head of the coded data (It is very well known in the art that positional information is written at the head of a track.).).

Regarding Claim 17, the combination of Mizokami et al. and Okazaki teach all the limitations of Claim 15. Mizokami et al. further teach wherein said recording signal series, sync bytes are arranged at a head position of each data which was split by said specific code train (Col. 17, L. 32-46, wherein it teaches it demonstrates a first sync pattern being recorded (added) after the head of the coded data (It is very well known in the art that positional information is written at the head of a track.).).

Regarding Claims 7 and 14, Mizokami et al. teaches an information recording and reproducing apparatus for recording and reproducing information onto/from a magnetic recording medium, comprising:

A data recording unit which inserts a predetermined specific code train into at least one or more portions of user data and records the data onto the medium upon data recording (Col. 2, L. 38-50 and Col. 11, L. 3-14);

And a data reproducing unit, which separates a head reproducing signal by using clocks and thereafter, executes a clock extraction and an amplitude by using a signal corresponding to said specific code train upon data reproduction (Col. 11, L. 15-37. Wherein it teaches the code trains utilizing RLL encoding to synchronize the data.).

Mizokami et al. does not explicitly teach wherein the code train is amplitude corrected and Wherein said recording unit and said data reproducing unit are constructed by a signal processing integrated circuit and said signal processing integrated circuit is installed in a magnetic disk apparatus or an optical disk apparatus. However, this feature is well known in the art as disclosed by Okazaki, wherein it teaches a variable gain amplifier to control the code trains (Col. 6, L. 14-24 and Col. 7, L. 10 of Okazaki, wherein it teaches that servo data is a code of train (another expression for code train) wherein this code is used for amplitude and synchronization purposes by using phase acquisition by a PLL circuit (See Abstract and Col. 3, L. 36-52. Okazaki further teaches a VGA, which is used for amplitude correction upon acquired data in Col. 1, L. 25-30. This read on the Applicant's description of amplitude correction according to the Applicant's Specification in Page 3, L. 12-24) and Wherein recording/reproducing unit are constructed by a signal processing integrated circuit and said signal processing integrated circuit is installed in a magnetic disk apparatus or an optical disk apparatus (Col. 5, L. 1-3 of Okazaki and also see Fig. 2). It would have been obvious to a

person of ordinary skill in the art, at the time the invention was made, to modify Mizokami et al.'s invention with the teaching of Okazaki in order to perform phase acquisition from the apparatus (See Abstract of Okazaki).

Regarding Claims 3, 10 and 20, the combination of Mizokami et al. teach all the limitations of Claims 1, 8 and 18, respectively. Okazaki further teach wherein in the clock in the clock extraction by said data reproducing unit, an inherent sampling time is obtained on the basis of phase information extracted from the signal corresponding to said specific code train, and the signal amplitude synchronized with the clock is sampled again by an interpolating operation of an interpolating filter according to said sampling time (Col. 3, L. 36-54).

Allowable Subject Matter

3. Claims 6, 13, and 23 are allowed.

The reasons for allowance for these claims are in the Office Action dated on 5/06/2004.

4. Regarding Claims 2, 4, 7, 9, 11, 14, 16, 19, 21 and 24, the objection of these Claims as though allowable has been withdrawn due to newly found art. These Claims are now rejected by Mizokami et al. in view of Okazaki.

Response to Arguments

5. Applicant's arguments filed 4/27/05 have been fully considered but they are not persuasive. Applicants argue that neither Okazaki nor Mizokami teaches "a data reproducing unit that conducts amplitude correction on the basis of the phase information of the special coda train holding the data". However, this limitation (pertaining phase information) is not being Claimed in the independent Claims. Also, Examiner does not concur with the Applicant in the fact that Okazaki does not teach such limitation because Okazaki in fact acquires the phase of the signal

in order to perform the adequate corrections to the data, such as synchronization and amplitude purposes for adequate data acquisition (See Col. 3, L. 36-42 and Col. 5, L. 66 to Col. 6, L. 24 in Okazaki). Therefore, the rejection of Mizokami n view of Okazaki still stands in the rejected Claims.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Glenda P. Rodriguez whose telephone number is (571) 272-7561. The examiner can normally be reached on Monday thru Thursday: 7:00-5:00; alternate Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

gpr
June 29, 2005.

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